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EXAMINER

CARTER, KENDRA D

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

<b>Application No.</b> 09/773,351	<b>Applicant(s)</b> MAES ET AL.	
<b>Examiner</b> Kendra D. Carter	<b>Art Unit</b> 1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 13 October 2007.
- 2a)  This action is **FINAL**.
- 2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1 and 3-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1 and 3-20 is/are rejected.
- 7)  Claim(s) \_\_\_\_\_ is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All   b)  Some \*   c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5)  Notice of Informal Patent Application
- 6)  Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 31, 2007 has been entered.

The Examiner acknowledges the applicant's remarks and arguments of October 31, 2007 made to the office action filed September 14, 2007. Claims 1 and 3-20 are pending. The claims have not been amended.

For the reasons in the previous office action and below, the Applicant's arguments of the 35 U.S.C. 103(a) of claims 1, 3, 5, 13 and 16-19 as being unpatentable over Abe et al in view of Shimada et al., was found not persuasive, and thus upheld.

For the reasons in the previous office action and below, the Applicant's arguments of the 35 U.S.C. 103(a) of claim 4 as being unpatentable over Abe et al (JP

60-161911) in view of Shimada et al. as applied to claims 1, 3, 5, 13 and 16-19 above, and further in view of to Abe et al. (JP 05-051314), was found not persuasive, and thus upheld.

For the reasons in the previous office action and below, the Applicant's arguments of the 35 U.S.C. 103(a) of claims 6-9 and 14-15 as being unpatentable over Abe et al (JP 60-161911) in view of Shimada et al. as applied to claims 1, 3, 5, 13 and 16-19 above, and further in view of Bernstein, was found not persuasive, and thus upheld.

For the reasons in the previous office action and below, the Applicant's arguments of the 35 U.S.C. 103(a) of claim 10 as being unpatentable over Abe et al (JP 60-161911) in view of Shimada et al. as applied to claims 1, 3, 5, 13 and 16-19 above, and further in view of Kitada et al., was found not persuasive, and thus upheld.

For the reasons in the previous office action and below, the Applicant's arguments of the 35 U.S.C. 103(a) of claim 11 as being unpatentable over Abe et al (JP 60-161911) in view of Shimada et al. as applied to claims 1, 3, 5, 13 and 16-19 above, and further in view of Takahashi et al., was found not persuasive, and thus upheld.

For the reasons in the previous office action and below, the Applicant's arguments of the 35 U.S.C. 103(a) of claim 12 as being unpatentable over Abe et al (JP

60-161911) in view of Shimada et al. as applied to claims 1, 3, 5, 13 and 16-19 above, and further in view of Kitada et al. and Takahashi et al., was found not persuasive, and thus upheld.

For the reasons in the previous office action and below, the Applicant's arguments of the 35 U.S.C. 103(a) of claim 20 as being unpatentable over Abe et al (JP 60-161911) in view of Shimada et al. as applied to claims 1, 3, 5, 13 and 16-19 above, and further in view of Bernstein, as applied to claims 6-9 and 14-15 above, and further in view Kitada et al, and Takahashi et al, was found not persuasive, and thus upheld.

The Applicant's arguments of the obviousness-type double patenting of claims 1, 6, 8 and 9 as being unpatentable over claims 1-8 and 17-20 of copending Application No. 10/424,616, was found persuasive, and thus the rejection is withdrawn.

All of the previous 35 U.S.C. 103(a) rejections are made below for Applicant's convenience.

Applicant's arguments are addressed below.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**(1) Claims 1, 3, 5, 13 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al (JP Publication No. 60-161911, English abstract), in view of Shimada et al (JP Publication No. 59-013708).**

Abe et al. teaches a cosmetic for improving dried skin, preventing aging of skin, providing skin with wetting characteristics, softness and luster by promoting the water retention function of skin, the composition containing cholesteryl sulfate (cholesterol sulfate) and/or its salt (see abstract, in particular.) Abe et al. teaches the cholesterol sulfate or salt thereof can be provided in an amount of from 0.1 to 5 wt% (see abstract, in particular), and thus teaches an amount that meets the range limitation of claims 1 and 13. As Abe et al. teaches the composition is a cosmetic, it is considered that Abe

et al. teaches the composition having a cosmetically or pharmaceutically acceptable vehicle, as recited in claims 1 and 13.

Abe et al. does not specifically teach that the composition contains an exfoliant as in claim 1, such as an amino sugar as in claim 5 or 13.

Shimada et al. teaches that cosmetic compositions can containing N-acetylamino sugars or their salts to give smoothness and moist feeling to skin, the amino sugars having an emollient effect, a skin activating effect, and being capable of giving smooth feeling, springiness and luster to the skin (see abstract, in particular.) Shimada et al. teaches that the amino sugars can be N-acetyl-D-glucosamine, N-acetyl-D-galactosamine, and others (see abstract, in particular), and thus teaches the "exfoliant" as recited in claims 1 and 5, and the amino sugar as in claim 13. Shimada et al. also teaches that the N-acetyl amino sugars can be provided in an amount of from 0.1 to 5% by weight of the composition (see abstract, in particular), which is an amount that meets the range limitation as recited in claims 1 and 13.

Accordingly, it is considered that one of ordinary skill in the art at the time the invention was made would have found it obvious to provide the N-acetylamino sugars of Shimada et al. in the cholesterol sulfate-containing composition of Abe et al, because Abe et al. teaches that the cholesterol sulfate composition improves dry skin and wets skin to promote softness and luster of skin, whereas Shimada et al. teaches that the N-

acetylamino sugars give smoothness and moistness to skin to improve the feeling and luster of skin. Thus, one of ordinary skill in the art would have found it obvious to provide the N-acetylamino sugars in the composition of Abe et al. with the expectation of providing an ingredient suitable for moisturizing and improving the luster of skin. Note it is considered that "[I]t is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980.) Accordingly, claims 1 and 13 are considered to be obvious over the teachings of Abe et al. and Shimada et al.

Regarding claim 3, Abe et al. teaches that cholesterol sulfate and salts thereof can be suitably provided (see abstract, in particular), as discussed above. Regarding claim 5, Abe et al. teaches that the N-acetyl amino sugars as claimed can be provided (see abstract, in particular), as discussed above.

Regarding the methods of claims 16 and 19, as Abe et al. and Shimada et al. teach applying the composition containing cholesterol sulfate and the amino sugar to skin, and teach that the composition is capable of improving the condition of skin, including enhancing water retention, preventing aging, and promoting softness and luster of skin, it is considered that the method of Abe et al. and Shimada et al.



necessarily also improves or maintains a healthy skin barrier, as recited in claim 16, and necessarily also treats or reduces damage to the skin, where the damage is associated with a reduction or loss of skin barrier function, as recited in claim 19. Since the combined teachings of Abe et al. and Shimada et al. renders the claimed composition obvious, the property of such a claimed composition will also be rendered obvious by the prior art teachings, since the properties, namely the improvement or maintenance of a healthy skin barrier, or the treatment of reduction of damage to skin, are inseparable from its composition. Therefore, if the prior art teaches the composition or renders the composition obvious, then the properties are also taught or rendered obvious by the prior art. In re Spada, 911 F.2d 705, 709, 15 USPQ 1655, 1658 (Fed. Cir. 1990.) See MPEP 2112.01. The burden is shifted to Applicant to show that the prior art product does not possess or render obvious the same properties as the instantly claimed product.

Regarding claims 17-18, Abe et al. teaches that the cholesterol sulfate can be provided in an amount of from 0.01 to 5%, preferably 0.05% to 3% (see abstract, in particular), and thus teaches a range that closely overlaps with those claimed. Furthermore, it is considered that one of ordinary skill in the art at the time the invention was made would have found it obvious to vary and/or optimize the amount of the cholesterol sulfate provided in the composition, according to the guidance provided by Abe et al, to provide a composition having desired properties. It is noted that "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to

discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955.)

**(2) Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al (JP Publication No. 60-161911, English abstract, hereinafter Abe et al. '911), in view of Shimada et al (JP Publication No. 59-013708), as applied to claims 1, 3, 5, 13 and 16-19 above, and further in view of Abe et al (JP 05-051314, hereinafter Abe et al. '314).**

Abe et al. '911 and Shimada et al. are applied as discussed above, and teach a cosmetic composition and method for improving skin by providing cholesterol sulfate or a salt thereof and an N-acetyl amino sugar.

The references do not specifically teach that the salt of the cholesterol sulfate is potassium.

Abe et al. '314 teaches a cosmetic composition containing ginseng essence and a cholesterol sulfate derivative, such as cholesterol sulfate or its salt (see abstract, in particular.) Abe et al. '314 teaches that suitable salts of the cholesterol sulfate can include the sodium and potassium salts (see paragraphs 0017 and 0023 of machine translation, in particular.) Accordingly, Abe et al. '314 teaches that the potassium salt of cholesterol sulfate is suitable for cosmetic use.

Accordingly, it is considered that one of ordinary skill in the art at the time the invention was made would have found it obvious to provide the potassium salt of cholesterol sulfate, as taught by Abe et al. '314 in the composition of Abe et al. '911 and Shimada et al, because Abe et al. '911 and Shimada teach that the cosmetic composition can contain cholesterol sulfate and salts thereof, whereas Abe et al. '314 teaches that the potassium salt is a cosmetically acceptable salt form of cholesterol sulfate. Thus, one of ordinary skill in the art would have been motivated to provide the potassium salt form of the cholesterol sulfate of Abe et al. '911 and Shimada et al, with the expectation of success in providing a suitable salt form for the cosmetic composition.

**(3) Claims 6-9 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over et al (JP Publication No. 60-161911, English abstract, hereinafter Abe et al. '911), in view of Shimada et al (JP Publication No. 59-013708), as applied to claims 1, 3, 5, 13 and 16-19 above, and further in view of Bernstein (WO 90/01323).**

Abe et al. '911 and Shimada et al. are applied as discussed above, and teach a cosmetic composition and method for improving skin, including reducing aging of skin and enhancing the moisture retention and luster of skin, by providing cholesterol sulfate or a salt thereof and an N-acetyl amino sugar.

Abe et al. '911 and Shimada et al. do not specifically teach that the composition contains a fatty acid, as recited for example in claims 6-7 and 14. Abe et al. '911 and Shimada et al. also do not specifically teach that the composition contains cholesterol, as recited for example in claim 8.

Bernstein teaches a composition for treating dry skin that contains a lipid concentrate blended from a combination of three naturally-occurring lipid groups found in the stratum corneum (see abstract, in particular.) Bernstein teaches that the stratum corneum of the skin contains certain lipids that form a protective "water barrier", and that formulations composed of components of this water barrier can provide treatment of dry skin (see page 1, lines 19-30, in particular.) Bernstein teaches that the lipids can contain one or more of a fatty acids, such as arachidonic, linoleic, linolenic, palmitic, stearic, oleic and docosanoic acids, and sterols such as cholesterol and cholesterol sulfate (see page 2, lines 15-25 and claims 1-4, in particular), and thus teaches topically providing the fatty acids as recited in claims 6-7 and 14, and the cholesterol as recited in claim 8.

Accordingly, it is considered that one of ordinary skill in the art at the time the invention was made would have found it obvious to provide the fatty acids and/or cholesterol of Bernstein in the composition of Abe et al. '911 and Shimada et al, because Abe et al. '911 and Shimada et al. teach a composition for improving skin,

including reducing aging of skin and enhancing the moisture retention and luster of skin, whereas Bernstein teaches that lipids such as fatty acids and cholesterol can be provided in a topical composition to improve the water barrier function of skin and treat skin dryness. Thus, one of ordinary skill in the art would have been motivated to provide the fatty acids and/or cholesterol in the skin improving/moisturizing composition of Abe et al. '911 and Shimada et al, with the expectation of providing ingredients suitable for relieving dry skin and enhancing the moisture retention of skin. Note it is considered that "[I]t is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980.)

Regarding claim 9, Bernstein teaches that suitable lipids can be selected from one or more of fatty acids such a linoleic acid and cholesterol, as discussed above, and thus renders the claim obvious.

Regarding claim 15, Bernstein teaches that a concentrate of the lipids can contain from 25 to 75% of fatty acids, such as linoleic acid, and 10 to 40% of sterols and sterol esters, such as cholesterol (see page 2, lines 15-35, in particular), and teaches that the concentrate can be formulated into topical compositions in a concentration ranging from about 1% to about 50% (see page 2, lines 30-35), and thus teaches a

range that overlaps with that in the claims. Furthermore, it is considered that one of ordinary skill in the art at the time the invention was made would have found it obvious to vary and/or optimize the amount of fatty acids such as linoleic acid and/or cholesterol provided in the composition, according to the guidance provided by Abe et al. '911, Shimada et al. and Bernstein, to provide a composition having desired properties, such as desired moisturization and dry skin treatment properties. It is noted that "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955.)

**(4) Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over et al (JP Publication No. 60-161911, English abstract, hereinafter Abe et al. '911), in view of Shimada et al (JP Publication No. 59-013708), as applied to claims 1, 3, 5, 13 and 16-19 above, and further in view of Kitada et al (JP Publication No. 10-017458).**

Abe et al. '911 and Shimada et al. are applied as discussed above, and teach a cosmetic composition and method for improving skin, including reducing aging of skin and enhancing the moisture retention and luster of skin, by providing cholesterol sulfate or a salt thereof and an N-acetyl amino sugar.

The references do not specifically teach providing sclareolide in the composition.

Kitada et al. teaches that an essence of plant can be added to a cosmetic composition to provide a composition that improves the uniformity of skin and prevent skin darkness caused by aging (see abstract, in particular.) Kitada et al. teaches that the plant essence may be from *Salvia officinalis* L, and may include the plant itself, its processed product and/or solvent extract, or solvent-removed extract from drying, grinding, finely cutting, etc, a part or all parts of the plant (see abstract, in particular.) The Examiner notes that Applicants disclose in their specification that *Salvia officinalis* L. is a source of sclareolide (see page 6, final full paragraph), and thus it is considered that Kitada et al. teaches providing sclareolide in the form of a plant essence into a cosmetic composition.

Accordingly, it is considered that one of ordinary skill in the art at the time the invention was made would have found it obvious to provide the sclareolide of Kitada et al. in the cosmetic composition of Abe et al. '911 and Shimada et al, because Abe et al. '911 and Shimada et al. teach the composition is suitable for improving the condition of skin, such as reducing aging of skin, and Kitada et al. teaches that plant essences such *Salvia officinalis* L, which contains sclareolide, can be provided in cosmetic compositions to provide skin benefits such as improved skin uniformity and reduced appearance of aging. Thus, one of ordinary skill in the art would have been motivated to provide the sclareolide in the composition of Abe et al. '911 and Shimada et al, with

the expectation of providing a component capable of imparting skin benefit effects to the composition, such as skin uniformity and anti-aging effects.

**(5) Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over et al (JP Publication No. 60-161911, English abstract, hereinafter Abe et al. '911), in view of Shimada et al (JP Publication No. 59-013708), as applied to claims 1, 3, 5, 13 and 16-19 above, and further in view of Takahashi et al (JP 06-263627).**

Abe et al. '911 and Shimada et al. are applied as discussed above, and teach a cosmetic composition and method for improving skin, including reducing aging of skin and enhancing the moisture retention and luster of skin, by providing cholesterol sulfate or a salt thereof and an N-acetyl amino sugar.

The references do not specifically teach providing the protease inhibitors such as white birch extract in the composition, as recited in claim 11.

Takahashi et al. teaches that a cosmetic for preventing the aging of skin, and that can improve the corneum and impart skin-beautifying effects, among other benefits, contains an extract of a plant belonging to the genus *Betula* or *Alnus* of *Betulaceae*, such as *Betula platyphylla* (white birch) (see abstract, in particular.)



Accordingly, it is considered that one of ordinary skill in the art at the time the invention was made would have found it obvious to provide the white birch extract of Takahashi et al. in the cosmetic composition of Abe et al. '911 and Shimada et al, because Abe et al. '911 and Shimada et al. teach the composition is suitable for improving the condition of skin, such as reducing aging of skin, and Takahashi et al. teaches that white birch extract, can be provided in cosmetic compositions to provide skin benefits such as reduced appearance of aging and skin beautifying effects. Thus, one of ordinary skill in the art would have been motivated to provide the white birch extract in the composition of Abe et al. '911 and Shimada et al, with the expectation of providing a component capable of imparting skin benefit effects to the composition, such as anti-aging effects and skin-beautifying effects.

**(6) Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over et al (JP Publication No. 60-161911, English abstract, hereinafter Abe et al. '911), in view of Shimada et al (JP Publication No. 59-013708), as applied to claims 1, 3, 5, 13 and 16-19 above, and further in view of Kitada et al (JP Publication No. 10-017458) and Takahashi et al (JP 06-263627).**

Abe et al. '911 and Shimada et al. are applied as discussed above, and teach a cosmetic composition and method for improving skin, including reducing aging of skin and enhancing the moisture retention and luster of skin, by providing cholesterol sulfate or a salt thereof and an N-acetyl amino sugar.

The references do not specifically teach providing sclareolide and white birch extract in the composition, as recited in claim 12.

Kitada et al. teaches that an essence of plant can be added to a cosmetic composition to provide a composition that improves the uniformity of skin and prevent skin darkness caused by aging (see abstract, in particular.) Kitada et al. teaches that the plant essence may be from *Salvia officinalis* L, and may include the plant itself, its processed product and/or solvent extract, or solvent-removed extract from drying, grinding, finely cutting, etc, a part or all parts of the plant (see abstract, in particular.) The Examiner notes that Applicants disclose in their specification that *Salvia officinalis* L. is a source of sclareolide (see page 6, final full paragraph), and thus it is considered that Kitada et al. teaches providing sclareolide in the form of a plant essence into a cosmetic composition.

Accordingly, it is considered that one of ordinary skill in the art at the time the invention was made would have found it obvious to provide the sclareolide of Kitada et al. in the cosmetic composition of Abe et al. '911 and Shimada et al, because Abe et al. '911 and Shimada et al. teach the composition is suitable for improving the condition of skin, such as reducing aging of skin, and Kitada et al. teaches that plant essences such *Salvia officinalis* L, which contains sclareolide, can be provided in cosmetic compositions to provide skin benefits such as improved skin uniformity and reduced

appearance of aging. Thus, one of ordinary skill in the art would have been motivated to provide the sclareolide in the composition of Abe et al. '911 and Shimada et al, with the expectation of providing a component capable of imparting skin benefit effects to the composition, such as skin uniformity and anti-aging effects.

Abe et al. '911, Shimada et al. and Kitada et al. do not specifically teach providing white birch extract in the composition.

Takahashi et al. teaches that a cosmetic for preventing the aging of skin, and that can improve the corneum and impart skin-beautifying effects, among other benefits, contains an extract of a plant belonging to the genus *Betula* or *Alnus* of *Betulaceae*, such as *Betula platyphylla* (white birch) (see abstract, in particular.)

Accordingly, it is considered that one of ordinary skill in the art at the time the invention was made would have found it obvious to provide the white birch extract of Takahashi et al. in the cosmetic composition of Abe et al. '911, Shimada et al. and Kitada et al, because Abe et al. '911, Shimada et al. and Kitada et al. teach the composition is suitable for improving the condition of skin, such as reducing aging of skin, and Takahashi et al. teaches that white birch extract, can be provided in cosmetic compositions to provide skin benefits such as reduced appearance of aging and skin beautifying effects. Thus, one of ordinary skill in the art would have been motivated to provide the white birch extract in the composition of Abe et al. '911, Shimada et al. and

Kitada et al, with the expectation of providing a component capable of imparting skin benefit effects to the composition, such as anti-aging effects and skin-beautifying effects. Accordingly, claim 12 is obvious over the teachings of the references.

**(7) Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over et al (JP Publication No. 60-161911, English abstract, hereinafter Abe et al. '911), in view of Shimada et al (JP Publication No. 59-013708), as applied to claims 1, 3, 5, 13 and 16-19 above, and further in view of Bernstein (WO 90/01323), as applied to claims 6-9 and 14-15 above, and further in view of Kitada et al (JP Publication No. 10-017458) and Takahashi et al (JP 06-263627).**

Abe et al. '911, Shimada et al. and Bernstein are applied as discussed above, and teach a cosmetic composition and method for improving skin, including reducing aging of skin and enhancing the moisture retention and luster of skin, by providing cholesterol sulfate or a salt thereof and an N-acetyl amino sugar. The references also teach that the composition can contain cholesterol and linoleic acid.

The references do not specifically teach providing sclareolide and white birch extract in the composition, as recited in claim 20.

Kitada et al. teaches that an essence of plant can be added to a cosmetic composition to provide a composition that improves the uniformity of skin and prevent

skin darkness caused by aging (see abstract, in particular.) Kitada et al. teaches that the plant essence may be from *Salvia officinalis* L, and may include the plant itself, its processed product and/or solvent extract, or solvent-removed extract from drying, grinding, finely cutting, etc, a part or all parts of the plant (see abstract, in particular.) The Examiner notes that Applicants disclose in their specification that *Salvia officinalis* L. is a source of sclareolide (see page 6, final full paragraph), and thus it is considered that Kitada et al. teaches providing sclareolide in the form of a plant essence into a cosmetic composition.

Accordingly, it is considered that one of ordinary skill in the art at the time the invention was made would have found it obvious to provide the sclareolide of Kitada et al. in the cosmetic composition of Abe et al. '911, Shimada et al. and Bernstein, because Abe et al. '911, Shimada et al. and Bernstein teach the composition is suitable for improving the condition of skin, such as reducing aging of skin, and Kitada et al. teaches that plant essences such *Salvia officinalis* L, which contains sclareolide, can be provided in cosmetic compositions to provide skin benefits such as improved skin uniformity and reduced appearance of aging. Thus, one of ordinary skill in the art would have been motivated to provide the sclareolide in the composition of Abe et al. '911, Shimada et al. and Bernstein, with the expectation of providing a component capable of imparting skin benefit effects to the composition, such as skin uniformity and anti-aging effects.

Abe et al. '911, Shimada et al, Bernstein and Kitada et al. do not specifically teach providing white birch extract in the composition.

Takahashi et al. teaches that a cosmetic for preventing the aging of skin, and that can improve the corneum and impart skin-beautifying effects, among other benefits, contains an extract of a plant belonging to the genus *Betula* or *Alnus* of *Betulaceae*, such as *Betula platyphylla* (white birch) (see abstract, in particular.)

Accordingly, it is considered that one of ordinary skill in the art at the time the invention was made would have found it obvious to provide the white birch extract of Takahashi et al. in the cosmetic composition of Abe et al. '911, Shimada et al, Bernstein and Kitada et al, because Abe et al. '911, Shimada et al, Bernstein and Kitada et al. teach the composition is suitable for improving the condition of skin, such as reducing aging of skin, and Takahashi et al. teaches that white birch extract, can be provided in cosmetic compositions to provide skin benefits such as reduced appearance of aging and skin beautifying effects. Thus, one of ordinary skill in the art would have been motivated to provide the white birch extract in the composition of Abe et al. '911, Shimada et al, Bernstein and Kitada et al, with the expectation of providing a component capable of imparting skin benefit effects to the composition, such as anti-aging effects and skin-beautifying effects. Accordingly, the combination of these ingredients as recited in claim 20 is considered to be obvious over the teachings of the references.

Regarding the specific amount of each component, as recited in claim 20, it is noted that Abe et al. '911 teaches that the cholesterol sulfate or salt thereof can be provided in an amount of from 0.1 to 5 wt% (see abstract, in particular), and Shimada et al. teaches that the N-acetyl amino sugars can be provided in an amount of from 0.1 to 5% by weight of the composition (see abstract, in particular), which are amounts that closely overlap with the range limitations of claim 20. Bernstein teaches that a concentrate of the lipids can contain from 25 to 75% of fatty acids, such as linoleic acid, and 10 to 40% of sterols and sterol esters, such as cholesterol (see page 2, lines 15-35, in particular), and teaches that the concentrate can be formulated into topical compositions in a concentration ranging from about 1% to about 50% (see page 2, lines 30-35), and thus teaches a range that overlaps with that in the claims. Kitada et al. teaches that the *Salvia officinalis* L. essence can be provided in a cosmetic in an amount of from 0.001-10 wt% (see abstract, in particular), and Takahashi et al. teaches that the white birch extract can be provided in an amount of from 0.001 to 2 wt% (see abstract, in particular), and thus teach ranges that closely overlap with those claimed. Furthermore, it is considered that one of ordinary skill in the art at the time the invention was made would have found it obvious to vary and/or optimize the amount of cholesterol sulfate and/or salt thereof, N-acetyl-D-glucosamine, cholesterol, linoleic acid, sclareolide and white birch extract provided in the composition, according to the guidance provided by Abe et al. '911, Shimada et al, Bernstein, Kitada et al. and Takahashi et al, to provide a composition having desired properties, such as desired

skin moisturizing, anti-aging, and skin benefit effects. It is noted that "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955.)

### ***Response to Arguments***

Applicant's arguments with respect to the rejection of the claims have been considered and are not found persuasive.

*Claims 1, 3, 5, 13 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe '911I in view of Shimada et al.*

The Applicant argues that the Examiner must consider what the prior art as a whole would have suggest to one skilled in the art. Particularly, cholesterol sulfate retards desquamation, while amino sugars desquamate the skin. A person ordinarily skilled in the art would expect the impacts of these two components of opposite functions to cancel each other out when they are combined. However, surprisingly the unexpectedly, the combination of these two components of opposite functions in the cosmetic composition of the present invention achieves a balanced result in nurturing the skin and improving/protecting the barrier of the stratum corneum. The Applicant cites Madison, citing various scientific journal articles within to support the mechanism of cholesterol sulfate, and cites Howard to support the mechanism of exfoliants. Thus the totality of the prior art disclosure as described hereinabove not only fails to teach or suggest, but actually leads away from combination of cholesterol sulfate or a salt thereof and exfoliants. Such separate uses for years without combination prior to the present invention also support the non-obviousness of combining cholesterol sulfate or a salt thereof with N-acetylamino sugars.



The Examiner disagrees because first, the Howard reference does not qualify as prior art. The effective filing date of the application is January 31, 2001 and the published date of the reference is September 2003. Thus, the teachings of Howard are not considered. In regards to the Madison reference, the Examiner does not read that any amount of cholesterol sulfate retards skin desquamation and increases stratum corneum layer thickness. As the Applicant and the reference states that "the mechanism by which excess cholesterol sulfate inhibits desquamation and its hydrolysis promotes desquamation, however, is still under investigation" (see page 234, column 2, last paragraph, lines 4-6; emphasis added). Thus, the inhibition of desquamation appears to occur at excess amounts of cholesterol sulfate, and its mechanism is not known. Therefore, the Examiner continues to rely upon that the present invention is rendered obvious by the combined teachings of Abe'911 and Shimada, which teaches the same result (i.e. maintaining healthy skin barrier and reducing damage to the skin). Both the Abe'911 and Shimada references were published at the time of the invention, such that one skilled in the art would be able to provide the same combination for the reasons stated above. As discussed before, Abe '911 teaches that by combining cholesterol sulfate, wetting agents and softeners are added at less amounts than is required conventionally without fear of inhibition of normal physiological functions. Therefore the surprising results that the combination of these elements to the above elements to maintain healthy skin barrier or reduce damage to the skin (i.e. improving dried skin, preventing aging of skin, providing skin with wetting characteristics, softness

and luster by promoting water retention function of skin) is taught by the combined teachings of Abe'911 and Shimada.

**Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP Publication No. 60-161911 to Abe et., in view of JP Publication No. 59-013708 to Shimada et al. as applied to claims 1, 3, 5, 13 and 16-19 above, and further in view of JP 05-051314 to Abe et al.**

The Applicant argues that as mentioned hereinabove the combination of Abe '911 and Shimada as proposed by the Examiner is not obvious and cannot be used to support rejections of claims of the present application. Nothing in Abe '314 teaches or suggests use of the cholesterol sulfate salts in a manner different from that taught by Abe'911.

The Examiner disagrees because Abe '314 provides teaching that suitable salts of the cholesterol sulfate can include the sodium and potassium salts (see paragraphs 0017 and 0023 of machine translation, in particular) are suitable for cosmetic use. The Examiner's arguments in regards to Abe'911 and Shimada are as discussed above.

**Claims 6-12, 14-15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP Publication No. 60-161911 to Abe et al., in view of JP Publication No. 59-013708 to Shimada et al, as applied to claims 1, 3, 5, 13 and 16-19 above, and further in view of WO 90/01323 to Bernstein, Japanese Patent Application Publication No. 10-017458 to Kitada et al., and/or Japanese Patent Application Publication No. 06-263627 to Takahashi et al..**

The Applicant argues that as mentioned hereinabove the combination of Abe '911 and Shimada as proposed by the Examiner is not obvious and cannot be used to support rejections of claims of the present application. The secondary references, i.e. Bernstein, Kitada, and Takahashi, cannot remedy the above-explained deficiency of Abe'911 and Shimada, and thus cannot support the rejections against claims 6-12, 14-15 and 20 of the present application.

The Examiner's arguments in regards to Abe'911 and Shimada are as discussed above.

### ***Conclusion***

No claims are allowed. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kendra D. Carter whose telephone number is (571) 272-9034. The examiner can normally be reached on 8:30 am - 5:00 pm.

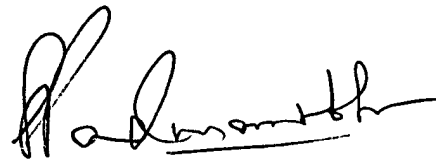
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on (571) 272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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KDC



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